ABSTRACT OF THE DISCLOSURE

In a heat exchanger, a core has a first core portion including first tubes and a second core portion including second tubes. The first tubes defines first passages through which an internal fluid flows and the second tubes defines second passages through which the internal fluid passed through the first passages flows. A flow direction of the internal fluid passed through a first section of the first core portion and a flow direction of the refrigerant passed through a second section of the first core portion are changed with respect to a direction that the tubes are layered, before flowing in the second core portion. Thus, the internal fluid passed through the first section of the first core portion flows into a second section of the second core portion and the internal fluid passed through the second section of the first core portion flows into a first section of the second core portion.